

S/085/62/000/009/001/001
D045/D114

13,2003

AUTHOR: Dobronravov, V., Doctor of Physics and Mathematics, Professor

TITLE: Spacecraft control

PERIODICAL: Kryl'ya Rodiny, no. 9, 1962, 12-13

TEXT: The general principles and methods of controlling (1) the motion of the center of mass and (2) the orientation of a space vehicle in space are discussed, special attention being paid to gyroscopic and gyrostatic control and an "astroinertial system" which keeps the vehicle correctly oriented in space. The "Vostok" and "Vostok-2" spacecraft were oriented towards the Earth so that the longitudinal axis was continuously at a tangent to the trajectory of the center of mass (Fig. 2). Soviet spacecraft have also been oriented towards the Sun on several flight sections. It is stated that Soviet automatic equipment for controlling the physical conditions within manned spacecraft is still more perfect than that installed on American spacecraft. There are 5 figures.

✓
B

Table 1/2

Spacecraft control

S/085/62/000/009/001/001
D045/D114



Fig. 2

Diagram of the flight and landing of "Vostok-2".

1 - Braking by jet engine; 2 - descent trajectory; 3 - area where the cabin and catapulted capsule landed.

Table 2/2

DOBROBRAYOV, V., prof., doktor fiziko-matematicheskikh nauk

What did the first spaceflight contribute to the study of the
universe. Av.i kosm. 44 no.4:20-27 '62. (MIRA 15:4)
(Space flight)

DOBRONRAVOV, V., prof.

From the first satellite to the first group flight into
space. Av.i kosm. 45 no. 10:7-10 '62. (MIRA 15:10)
(Space flight)

DOBRONRAVOV, V.V., doktor fiz.-mat. nauk, prof., red.; ZAKHAROV,
Yu.G., kand. tekhn. nauk, red.; KURBAKOVA, I.P., red.
izd-va; KARPOV, I.I., tekhn. red.

[Problems in analytic and applied mechanics] Voprosy anali-
ticheskoi i prikladnoi mekhaniki; sbornik statei. Moskva,
Oborongiz, 1963. 175 p. (MIRA 16:4)
(Mechanics, Analytic) (Mechanics, Applied)

BR

ACCESSION NR: AT3011851

S/2978/63/000/000/0049/0051

AUTHOR: Dobronravov, V. V. (Professor)

TITLE: Integrals of dynamic equations as conditions of nonholonomic constraints

SOURCE: Voprosy* analiticheskoy i prikladnoy mekhaniki; sbornik statey. Moscow, 1963, 49-51

TOPIC TAGS: classical mechanics, equation of motion, first integral, nonholonomic constraint

ABSTRACT: It is assumed that a system of dynamic equations of motion for a mechanical holonomic system

$$(q_1, q_2, \dots, q_n)$$

has been formulated and that some first integrals have been found:

$$f_j(\bar{q}, \dot{q}, t) = C_j \quad (j=1, 2, \dots, l)$$

The question is discussed whether the obtained integrals can be considered as equations of nonholonomic constraints imposed on the mechanical system and used for reformulating the equations of motion. The point is illustrated by considering the

Card 1/2

ACCESSION NR: AT3011851

motion of a rigid body about an immovable point. The equations of motion allow a first integral expressing the invariance of a projection of the angular momentum. Using the first integral as the condition of a nonholonomic constraint and the principle of virtual work, equations of motion are obtained equivalent to the initial equations of motion. Orig. art. has: 11 equations.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 15May63

ENCL: 00

SUB CODE: GP

NO REF SOV: 003

OTHER: 001

Card 2/2

DOBRONRAVOV, V.V. (Moscow):

"On the relations between kinematical and dynamical characteristics
in motion of a solid with a fixed point."

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 Jan - 5 Feb 64.

DOBRONRAVOV, V., doktor fiz.-matem. nauk, prof.

Successful space year. Kryl. rod. 15 no.1:17-18 Ja '64.
(MIRA 17:2)

DOBONRAVOV, V.Ye.; KOCHETOVA, L.B.; KOGAN, O.Ye., starshiy inzh.-
metodist, otv. za vypusk; RAZUMOVSKIY, N.N., red.

[Methods of presenting the topic "Electromagnetism" in a
physics course; methods manual for technical school teachers]
Metodika izlozheniia temy "Elektromagnetizm" v kurse fiziki;
metodicheskoe posobie dlia prepodavatelei tekhnikumov. Moskva,
Upr. kadrov i ucheb. zavedenii. Nauchno-metodicheskii kabinet,
(Electromagnetism--Study and teaching) (MIRA 15:8)

DOBRONRAVOV, Ye.P.

Ways of improving the quality of sinter in Krivoy Rog Basin
plants. Met. i gornorud. prom. no.4:9 J1-Ag '64.
(MIRA 18:7)

Dobronravov, Yu. A.

Distr: hE_{13}/hE_{2c}

Supplementary motion integrals for the hydrogen atom.
Yu. A. Dobronravov. *Vestnik Leningrad. Univ.* 17, No. 10,
Ser. Fiz.-Mat. Nauk, No. 2, 5-10 (1957).—Six quantum-mech.
integrals of motion were obtained for the H atom by con-
sidering the group symmetry properties of the Hamiltonian
in Schrödinger's equation. A relation is established be-
tween the energy and the parameters that correspond to a
set of degenerate wave functions. The degeneracy (case
 $E < 0$) is ascribed to the particle trajectory in the Coulomb
field. A. Krembeller

11

2

2.

DOBRONRAVOVA, A.D.; TUGARINOV, D.N.; ZAKHAROVA, T.K.; KONOVALYUK, G.A.,
redaktor; NOGINA, N.I., tekhnicheskiiy redaktor

[Ukrainian S.S.R., White Russian S.S.R. and Moldavian S.S.R.]
Ukrainskaia SSR, Belorusskaia SSR, Moldavskaia SSR. Moskva, Gos.
izd-vo geogr. lit-ry, 1956. 69 p. (MLRA 10:3)
(Ukraine--Geography) (White Russia--Geography)
(Moldavia--Geography)

DOBRONRADOVA, A. N.

Category: USSR / Physical Chemistry - Surface phenomena. Adsorption.
Chromatography. Ion exchange.

B-13

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30215

Author : Preobrazhenskiy B. K., Lilova G. M., Dobronravova A. N., Teterin Ye.
D.

Inst : not given

Title : Ion-Exchange Separation of Active Rare-Earth Elements Without the Use
of a pH-Meter

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 10, 2294-2299

Abstract: Description of a method of chromatographic separation of tracer amounts of rare earths (RE) in columns containing a cationite of the Dowex-50 type, with elution with NH_4 -lactate solutions. A procedure is recommended for the preparation of the elution solution by neutralization (to bromocresol purple with a transition interval pH 5-6) with gaseous NH_3 . It was found that a solution prepared in this manner provides the best conditions for separation of RE, and on addition of phenol (to a concentration of 0.01 M) undergoes no change on prolonged storage. For isolation of Lu - Yb fraction use is made

Card : 1/2

-21-

SOV/48-22-7-9/26

AUTHORS: Dobronravova, A. N., Krizhanskiy, L. M., Murin, A. N.,
Pokrovskiy, V. N.

TITLE: Mass Numbers of Dysprosium Isotopes With a Neutron Deficit
(Massovyye chisla neytronodefitsitnykh izotopov disproziya)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958,
Vol. 22, Nr 7, pp. 815 - 816 (USSR)

ABSTRACT: When the authors investigated the Dy-fraction and the genetic relations of the Dy-isotopes with their daughter elements (Tb and Gd), they arrived at the conclusion (Ref 4) that isotopes with a mass number of 159, 157, 155, and 153 must be contained in the Dy-fraction. In order to check on this assumption it was attempted to determine directly the masses of the Dy-isotopes, which are produced in a "thorough" (glubok) Ta-fission reaction. For this purpose the Dy-fraction was separated in the mass spectrometer. The α -spectra of the separated Dy-isotopes were recorded with a scintillation spectrometer. A MC-2 industrial-type mass spectrometer was used for the separation. In order to increase the intensity

Card 1/3

SOV/48-22-7-9/26

Mass Numbers of Dysprosium Isotopes With a Neutron Deficit

of light the slits were somewhat widened and the tungsten filament cathode was platinated. The preparations were investigated on a μ scintillation spectrometer with a NaJ(Tl)-crystal with a size of 30 x 20 mm. Radioactive isotopes of Dy with a mass number of 159, 157, 155, 153, and probably of 151 were found. The low activity of the Dy¹⁵⁹-sample, and the very low one of the Dy¹⁵¹-sample did not permit a further investigation. From the evidence collected the following conclusions could be drawn: Dy¹⁵⁷: half-life $T_{1/2} = 8,5 \pm 0,5$ hours. A radioactive daughter substance was not found. The μ -spectrum shows 80- (weak) and 325 keV-lines. Dy¹⁵⁵: $T_{1/2} = 9 \pm 2$ hours. A radioactive daughter substance with a half-life of about 5 days (Tb¹⁵⁵, Refs 4 and 6) was found. The μ -spectrum of Dy¹⁵⁵ consists of 80- (dubious) and 227 keV-lines: Dy¹⁵³: $T_{1/2} = 7 \pm 3$ hours. A radioactive daughter substance with a half-life of about 2 days (Tb¹⁵³, Ref 7) was found. The μ -spectrum of

Card 2/3

SOV/48-22-7-9/26
Mass Numbers of Dysprosium Isotopes With a Neutron Deficit

Dy¹⁵³ contains the 80 keV-line. There are 9 references,
6 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V.G. Khlopina Akademii nauk SSSR.
(Radium Institute imeni Khlopin, AS USSR)

Card 3/3

L 11053-63

EPF(n)-2/EWT(m)/BDS--AFTTC/ASD/AFWL/SSD--Pu-4--DM

ACCESSION NR: AP3001179

S/0089/63/014/005/0484/0487

AUTHOR: Dobronravova, A. N.; Levskiy, L. K.; Murin, A. N.; Titov, N. Ye.

TITLE: Cross section for formation of krypton and xenon isotopes during uranium fission by protons of 680 Mev energy

SOURCE: Atomnaya energiya, v. 14, no. 5, 1963, 484-487

TOPIC TAGS: krypton, xenon, isotope formation, uranium fission by protons

ABSTRACT: In continuation of the previous work (Geokhimiya, v. 6, 546, 1962) on the relative yield of xenon and krypton isotopes which are fragments of uranium fission by protons of 680 Mev energy, the authors have irradiated two more uranium targets in the inner beam of the synchrocyclotron of the laboratory for nuclear problems of the Consolidated Institute, for nuclear studies. After heating the specimens, the gases were collected by activated charcoal at -183C, and, after purification, were analyzed in a MV-23-02 mass spectrometer. To avoid wasting gases, an electric scheme was developed for a speedy tuning for recording each isotope. Description of this scheme is given. The relative yield for the krypton (masses 78 to 86), xenon (124 to 136), and rubidium (83, 84) isotopes is summarized in a table. Effective cross sections are computed using the usual formulas.

Card 1/2

L 11053-63

ACCESSION NR: AP3001179

3
Theoretical estimation is made for the distribution of nuclear fragments as a function of A and Z. "The authors are grateful to V. P. Dzhelepov and E. K. Gerling for their kindness in giving us the opportunity to work with the synchrocyclotron and the MV-23-02 mass spectrometer and also to V. I. Baranovskiy for discussion of results." Orig. art. has: 5 references, 1 figure, 2 tables.

ASSOCIATION; none

SUBMITTED: 27Jul62

DATE ACQD: 21Jun63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 002

Gerling
Card 2/2

GEDYMIN, A.V.; DOBRONRAVOVA, A., redaktor; MIRONOV, M.G., redaktor;
ZAYTSEVA, I.F., redaktor kart; PETROVA, M.D., tekhnicheskii redaktor

[Cartography] Kartografiia. Izd-vo 2-e, perer. Moskva, Gos. uchebno-
pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1952. 218 p.
(Cartography) (MLRA 7:9)

KUZNETSOV, N.T.; GELLER, S.Yu., redaktor; DOBRONRAVOVA, A.O., redaktor;
NEVRAYEVA, N.A., tekhnicheskij redaktor.

[Exploiting the rivers of our land] Osvoenie rek nashei rodiny.
Moskva, Izd-vo Akad.nauk SSSR, 1954. 94 p. (MLRA 8:3)
(Rivers) (Hydraulic engineering)

DOBRONRADOVA, A.O.

KUZNETSOV, I.V., redaktor; GOLUBTSOVA, V.A., redaktor; GRIGOR'YAN, A.T., redaktor; ZUBOV, V.P., redaktor; SOTIN, B.S., redaktor; FIGUROVSKIY, N.A., redaktor; SHUKHARDIN, S.V., redaktor; YUSHKEVICH, A.P., redaktor; DOBRONRADOVA, A.O., redaktor; ~~ALEKSEYEVA, T.V., tekhnicheskii redaktor.~~

[History of the science and technology of China; a collection of articles] Iz istorii nauki i tekhniki Kitaa; sbornik; statei, Moskva, Izd-vo Akademii nauk SSSR, 1955. 181 p.
(MLRA 8:10)

1. Akademiya nauk SSSR. Institut istorii yestestvoznaniya i tekhniki.

(China--Science--History) (China--Technology--History)

11POLLOV, B.A.; BOBROV, S.N., redaktor; ~~DOBRONRAVOVA, A.O., redaktor;~~
MEYER, I.L., redaktor; POLYAKOVA, T.V., ~~tekhnicheskii~~ redaktor.

[The Caspian Sea and its basin] Kaspiiskoe more i ego bassein.
Moskva, Izd-vo Akademii nauk SSSR, 1956. 115 p. (Nauchno-popu-
liarnaya seriya) (MIRA 9:4)

(Caspian Sea)

DOBROHRAVOVA, Alavtina Orestovna,; TUGARINOV, Dmitriy Nikolayevich,;
DOBROHRAVOVA, K.O.,red.; MOGINA, N.I., tekhn. red.

[Armenian S.S.R.] Armianskaia SSR. Moskva, Gos. izd-vo geogr.
lit-ry, 1958. 55 p. (MIRA 11:12)
(Armenia)

DOBRONRAVOVA, A.O.; TUGARIMOV, D.N.; LYUBIMOV, I.M., red.; KOSHELEVA,
S.M., tekhn.red.

[Ukrainian S.S.R.] Ukrainskaia SSR. Moskva, Gos.izd-vo geogr.
lit-ry, 1959. 123 p. (MIRA 13:3)
(Ukraine)

BRYAKALOV, G.A. (Leningrad); DOBRONRAVOVA, I.K. (Leningrad);
CHUKREYEV, P.A. (Leningrad); YUSUPOV, R.M. (Leningrad)

Solution of a logic problem using an analog computer. Izv.
AN SSSR. otd. tekhn. nauk. tekhn. kib. no.3:168-176 My-Je '63.
(MIRA 16:7)

(Electronic analog computers)

ACCESSION NR: AP4014136

S/0247/64/014/001/0033/0039

AUTHOR: Dobronravova, I. S.

TITLE: Bioelectric activity changes in the human brain during motor conditioning to time

SOURCE: Zhurnal vyssh. nerv. deyatel'., v. 14, no. 1, 1964, 33-39

TOPIC TAGS: EEG change, bioelectric activity change, human brain, motor conditioning, motor conditioning to time, alpha-rhythm depression, conditioned rhythmic stimulus, alpha-rhythm depression probability

ABSTRACT: EEG changes in 10 human subjects were investigated in a series of 3 experiments with an unconditioned rhythmic light stimulus in the first series, a conditioned rhythmic light stimulus in the second series, and a conditioned rhythmic light stimulus requiring a motor response in the third series. Duration of the light stimulus was .5 sec and intervals between stimuli ranged from 1 to 4.5 sec. EEG of the visual and sensomotor cortex areas (monopolar leads) and EMG of the right hand fingers were recorded on a four-channel

Card 1/3

ACCESSION NR: AP4014136

electroencephalograph. Stimulus effect was determined by alpha-rhythm depression reaction. In each series the subject was tested 5-15 times while sitting with eyes closed in a dark soundproof chamber. Findings show that unconditioned rhythmic light stimuli produced alpha-rhythm depression for a relatively short period and gradually the alpha-rhythm was restored to its initial activity. EEG changes in response to conditioned rhythmic light stimuli displayed a distinct cyclic pattern. Alpha rhythm depression was followed by a strong burst of alpha-activity and changed into depression again before the appearance of the next stimulus. EEG changes in response to a conditioned rhythmic light stimulus requiring a motor response from the subject did not demonstrate any cyclic pattern related to motor rhythm. Statistical analysis of data from all 3 experimental series indicates that the probability of alpha-rhythm depression increases with the shortening of stimuli intervals. The non-specific brain system activated by alpha-rhythm depression appears to participate in motor conditioning to time. Orig. art. has: 4 figures.

ASSOCIATION: Institut vysshey nervnoy deyatel'nosti i neyrofiziologii Akademii Nauk SSSR (Institute of Higher Nervous Activity and

Cord 2/3

Dobronravova, K.O.

MARUKHYAN, A.O., doktor ekonomicheskikh nauk, redaktor; MURZAYEV, E.M.,
doktor geograficheskikh nauk, redaktor; RYAZANTSEV, S.H.,
kandidat geograficheskikh nauk, redaktor; DOBRONRAVOVA, K.O.,
redaktor; GLEYKH, D.A., tekhnicheskii redaktor

[Armenian S.S.R.] Armianskaia SSR. Moskva, Gos. izd-vo geogr.
lit-ry, 1955. 282 p. (MLRA 9:4)

1. Akademiya nauk Armyanskoy SSR, Brevan. Institut ekonomiki.
(Armenia)

RYAZANTSEV, Sergey Nikolayevich; PAVLENKO, Viktor Fedorovich;
MALAYEVA, S.L., sostavitel' kart; DOBRONRAVOVA, K.O., red.;
KONOVALYUK, I.K., mladshiy red.; KISILEVA, Z.A., red.kart;
GLEBYKH, D.A., tekhn.red.

[Features of the economic geography of the Kirghiz S.S.R.]
Kirgizskaya SSR; ekonomiko-geograficheskaya kharakteristika.
Moskva, Gos.izd-vo geogr.lit-ry, 1960. 483 p.

(MIRA 13:12)

(Kirghizistan--Economic geography)

KALESNIK, Stanislav Vikent'yevich; DOBRONRAVOVA, K.O., red.;
LYUBIMOV, I.M., red.; KONOVALYUK, I.K., mlad. red.;
VAS'KINA, R.S., tekhn. red.

[Outline of glaciology] Ocherki gliatsiologii. Moskva,
Geografiz, 1963. 550 p. (MIRA 17:2)

YEVGEN'YEV, Boris Sergeyevich; DOBRONRAVOVA, K.O., red.; KONOVALYUK,
I.K., mlad. red.

[Brightening a road wind- its way...; a tale . . . the Moscow
River] Svetleia, steletsia doroga...; povest' o Moskve-reke.
Moskva, Izd-vo "Mysl'," 1964. 229 p. (MIRA 17:7)

YEFREMOV, Yu.K.; DOBRONRAVOVA, K.O., red.

[The Far East; a photographic album] Dal'nii Vostok; foto-
al'bom. Moskva, Mysl', 1964. 118 p. (MIRA 18:5)

KHARITANOVSKIY, Aleksandr Aleksandrovich; DOBRONRAVOVA, K.O.,
red.; POLOZHENTSEVA, T.S., mlad. red.

[Man with an iron deer; tale about a forgotten feat]
Chelovek s zheleznym olenem; povest' o zabitom podvige.
Moskva, Mysl', 1965. 221 p. (MIRA 18:12)

L 08836-67 EWT(1) SCTB DD/GD

ACC NR: AT6036684

SOURCE CODE: UR/0000/66/000/000/0386/0387

AUTHOR: Shilov, V. M.; Dobronravova, N. N.; Kozar', M. I. 30

ORG: none

TITLE: Effect of radial accelerations on the immunological reactivity of the organism
Papar presented at the Conference on Problems of Space Medicine held in Moscow from
24-27 May 1966

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 386-387

TOPIC TAGS: biologic acceleration effect, hematology, immunology, space medicine, automicroflora

ABSTRACT:

Acceleration is a factor which has a deleterious effect on the organism. The data thus far indicate that accelerations can cause shifts in the functional state of a number of systems (nervous, cardiovascular, digestive, etc.). From this it can be speculated that destruction of various systems of the organism can lead to changes in immunity. However, the problem of the effect of acceleration on immunoreactivity has been little studied.

Card 1/2

L 08836-67

ACC NR: AT6036684

This study was designed to investigate the effect of transverse radial accelerations on the immunologic reactivity of the organism. Immuno-reactivity was evaluated as a function of the phagocytic reaction, titre complement, bactericidal qualities of the skin, and blood lysozyme content. Three series of experiments were conducted on 400 white rats. Animals were exposed to chest-back accelerations of 20, 25, and 30 G for 5 min on a special centrifuge. Examinations took place 1-2 hr after exposure, as well as 1, 3, 6, 10, 20, and 30 days later.

The experiments showed that accelerations of 20, 25, and 30 G caused short-term changes in immunologic reactivity. However, during actual spaceflights which will probably entail prolonged stay in a hermetically sealed cabin under altered living conditions and the action of a number of unfavorable spaceflight factors, the immunologic condition and reactivity of the organism as well as microorganisms in the spacecraft cabin and cosmonaut automicroflora can be altered. For this reason it is of great importance to increase the immunoreactivity of the organism to prevent the development of various autoinfectious diseases. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

DOBRONRAVOVA, N. P.

DOBRONRAVOVA, N. P. -- "The Role of Animal Protein as One Factor Contributing to an Increase in the Non-Specific Resistance of the Growing Organism to Dysentery Infections." Min Health RSFSR. Saratov State Medical Inst. Saratov, 1955. (Dissertation for the Degree of Candidate of Medical Sciences.)

SO: Knizhnaya Letopis', No 5, Moscow, Feb 1956

DOBRONRAVOVA, N.P.; KUINDZHI, N.N.

Nutrition and some aspects of metabolism in the native population
of the Far North. Probl. Sev. no.6:112-114 '62. (MIRA 16:8)

1. Moskovskiy institut gigiyeny imeni F.F. Erismana.
(RUSSIA, NORTHERN—NUTRITION)
(METABOLISM)

DOBROREAVOVA, N.P.

Energy expenditure of indigenous fishermen in the Far North
Vop. pit. 21 no.6:36-40 N-7 '62. (MIRA 17:5)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta gigiyeny
imeni F.F. Erismana.

DOBRONRAVOVA, S. A.

Treatment of tuberculosis by the intratracheobronchial administration of streptomycin. Probl. tub. no.7:111-113 '61.
(MIRA 14:12)

1. Iz Kuybyshevskogo oblastnogo protivotuberkuleznogo dispansera
(glavnyy vrach - zasluzhennyy vrach RSFSR A. S. Lotsmanov)

(STREPTOMYCIN) (TUBERCULOSIS)

KUDRYASHOV, P.A., red.; DOBRONRAVOVA, S.M., red.

[Reference catalog of equipment and appliances for the mechanization of shipbuilding operations] Katalog-spravochnik oborudovaniia i prispособlenii dlia mekhanizatsii sudoremontnykh rabot. Moskva, Transport, 1965. 149 p. (MIRA 19:1)

1. Russia (1917- R.S.F.S.R.) Ministerstvo rechnogo flota. Tsentral'noye proyektno-konstruktorskoye byuro.

SHAPOSHNIKOV, Oleg Konstantinovich; DOBRONRAVOVA, V.N., red.;
LEBEDEVA, Z.V., tekhn. red.

[Urticaria] Krapivnitsa. Leningrad, Medgiz, 1962. 106 p.
(MIRA 16:1)

(URTICARIA)

TRONOV, B.V.; DOBRONRAVOVA, Z.A.

Obtaining "lignin acids" from hydrolytic lignin. *Gidroliz.i*
lesokhim.prom. 13 no.4:3-4 '60. (MIRA 13:7)

1. Tomskiy politekhnicheskii institut.
(Lignin) (Wood--Chemistry)

DOBRONRAVOVA, Z.A.

Alkaline activation of hydrochloric acid hydrolytic lignin.
Gidroliz. i lesokhim.prom. 14 no.3:5-6 '61. (MIRA 14:4)

1. Tomskiy politekhnicheskii institut.
(Ligin)

BOMSKI, Henryk; DOBRON-SKRZYCKA, Anna

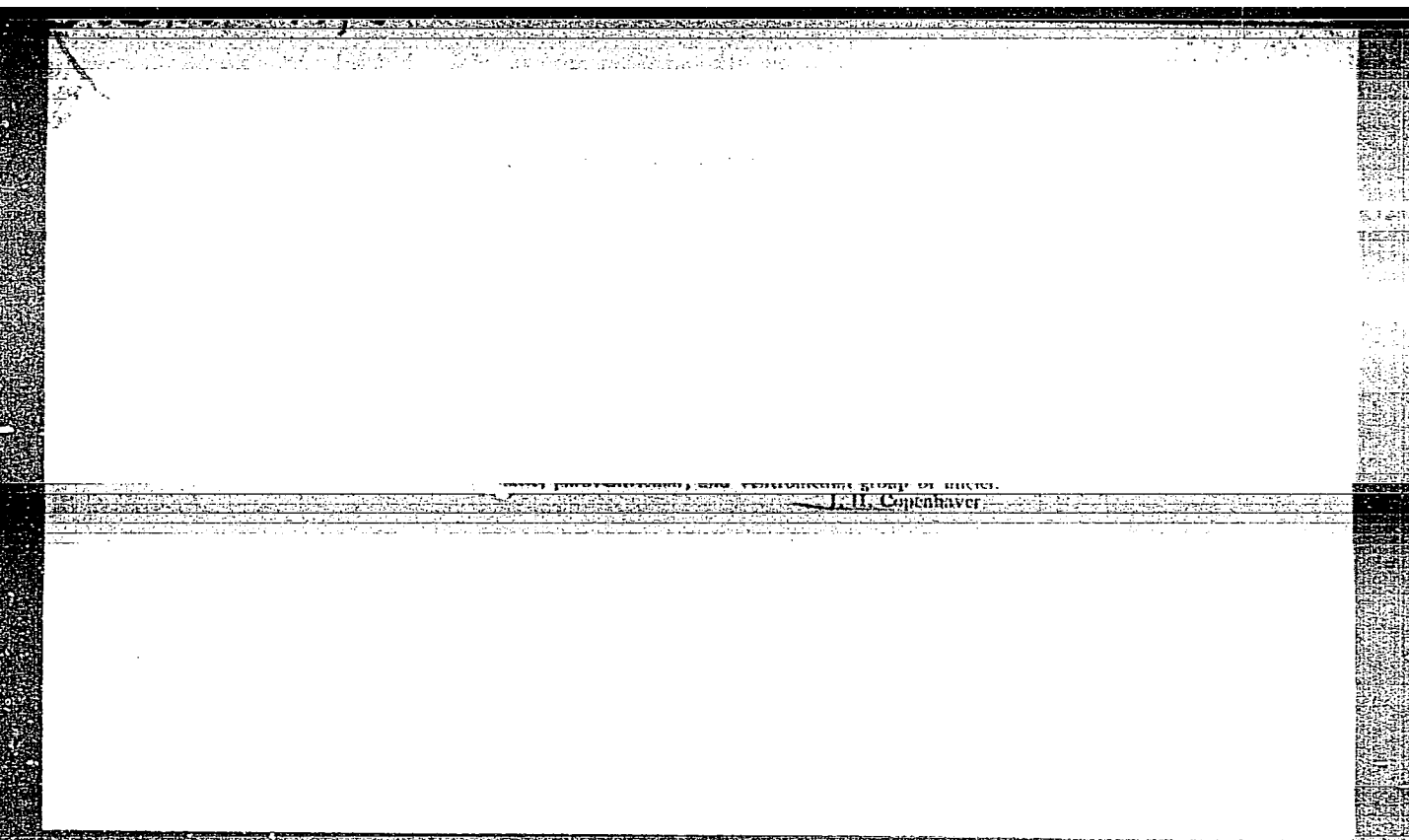
Hernia of the linea alba. Wiad. lek. 18 no.3:229-235 P 1 '65

1. Z Oddziału Chorob Wewnętrznych Szpitala Miejskiego w Zgierzu
(Ordynator: dr. med. H. Bomski).

KÓSA Cs., OROSZ A., DOBRONYI J. and FÖLDES I.

Anat. Inst., Inst. für anorganische Chemie, Univ. Debrecen. *Experimentelle
Beeinflussung des Blutkalziumspiegels durch Hypothalamusläsion. Effect of
experimental hypothalamic lesions on the blood calcium ACTA PHYSIOL. ACAD.
SCIENT. HUNG. (Budapest) 1954, 5/suppl. (75-76)

SO: EXCERPTA MEDICA - Section II, Vol. 7, No. 10



MARTON, Geza; DOBRONYI, Laszlo, dr.

Revision of the wage system in the mining industry. Munka szemle 5 no.2:
5-9 F '61.

1. "Munkaugyi Szemle" szerkeszto bizottsagi tagja (for Marton).

MARTON, Geza, okl. gepeszmernok; DOBRONYI, Laszlo, dr.

Revision of bargains in the mining; general situation and guiding principles relating to territorial measures. Bany lap 94 no.4: 248-253 Ap '61.

1. Foosztalyvezeto, Munkasugyek Foosztalya, Nehesipari Miniszterium, Budapest (for Marton). 2. Osztalvezeto, Munkasugyek Foosztalya, Nehesipari Miniszterium, Budapest (for Dobronyi).

(Hungary—Mineral industries)

AUTHOR: Dobrorez, A.P. , Engineer SOV/122-58-12-19/32
TITLE: Choice of a Criterion for Measuring Wear of Cutting Tools
(Vybor kriteriya iznosa reztsa pri tonkom tochenii)
PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 12, p 52 (USSR)
ABSTRACT: In fine turning tool wear occurs mainly on the flank of the tool. The width of the worn area on the tool flank is often taken as a criterion of the amount that the tool has worn. Curves showing width of worn area (mm) against total length of cut (metres) exhibit flat sections where no apparent wear or increase in width of worn area on tool flank occurs throughout a considerable length of cut. The width of the worn area is not necessarily a maximum at the top of the tool tip. Radial wear, i.e. wear in a direction normal to the surface being turned, is a more exact criterion of tool wear. (Radial wear can be measured by the apparatus described in Stanki i Instrument Nr 5, 1955). Figs 1 and 2 show wear measurements on two different types of tipped tools cutting chrome nickel steel at 210 metres/min with depth of cut 0.1 mm and feed 0.06 mm/rev. The curves designated hz are for wear as indicated in mm width of worn area on tool flank, and

Card 1/2

SOV/122-58-12-19/32

Choice of a Criterion for Measuring Wear of Cutting Tools

those designated hp are for radial wear in micron (.001 mm). Apart from a short initial period at a higher rate, the curve for radial wear is linear. In consequence of this linearity, when using radial wear as a criterion, tool wear tests need not be prolonged beyond the length of time necessary to establish the linear rate. Variations in wear measurement are within 2% to 5%, taken over a 100 metre length of cut. Radial wear of the tool reflects the accuracy of machining directly, and is a more sound criterion for tool wear than measurement of the width of a blunted area on the tool flank.

There are 2 figures, and 4 references (all Soviet)

Card 2/2

31920
S/123/61/000/022/007/024
A004/A101

| 1100

AUTHOR: Dobrorez, A.P.

TITLE: Some problems of fine turning

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 22, 1961, 29, abstract
22B180 ("Tr. Ufimsk. aviats. in-ta", 1960, no. 5, 33 - 40)

TEXT: The fine turning of steels is characterized by high cutting speeds (up to 500 m/min), small feeds (0.03-0.15 mm/rev) and small depths of cut (0.05-0.5 mm). The problems of radial tool wear, optimum tool geometry and cutting conditions, comparative rating of various tool materials from the viewpoint of radial wear and height of microroughness pertain to the problems of fine turning which have been little studied and were, therefore, the subject of investigation. The investigations were carried out during longitudinal turning of 18 HBA (18NVA) steel specimens on a TB -320 (TV-320) screw-cutting lathe. An analysis of the back edge wear curves confirms the correctness of the selection of the radial wear as a determining criterion of blunting. The author studied the effect of the tool cutting part and elements of cutting conditions on the radial wear and surface finish. The factors (feed, back angle, cutting speed) which, being

Card 1/2

31930
S/123/61/000/022/007/024
A004/A101

Some problems of fine turning

changed, lower the radial wear result also in a reduction of the height of micro-roughness. At a feed of 0.03 mm/rev and an increase in the cutting path exceeding 8,000 m, vibrations arise which deteriorate the surface finish. Using small feeds up to 0.06 mm/rev in fine turning leads to the origination of vibrations which lower the tool life. There are 10 graphs, 1 table and 4 references.

I. Briskman

[Abstracter's note: Complete translation]

Card 2/2

DOEROREZ, A.P.

Selecting the radius of the tool point for fine turning. Stan.1
instr. 33 no.9:28 S '62. (MIRA 15:9)
(Metal-cutting tools) (Turning)

DOBROREZ, A.P., inzh.

Effect of cutting conditions on the radial wear of cutting
tools in fine steel turning. Vest. mashinostr. 43 no.12:51-54
D '63. (MIRA 17:8)

DOBROREZ, A.P., insh.

Cost and efficiency of obtaining the seventh to ninth class of
surface smoothness in the fine turning of steel. Vest.mashinostr.
44 no.12:61-63 D '64. (MIRA 18:2)

SKRIPCHENKO, N.S.; DOBRORODNYI, N.A.; TAMBIYEV, A.S.

Redeposition of chalcopryite in the pebbles of sulfide ores in
the Urup deposit (Northern Caucasus). Dokl. AN SSSR 162 no.2:
425-427 My '65. (MIRA 18:5)

1. Novocherkasskiy politekhnicheskii institut im. S.Ordzhonikidze.
Submitted January 14, 1965.

DOBROUKA, J.

"Brachyschedyla (Schizoschedyla) Monceci Prol., a new representative of the family Schendylidae (Chilopoda, Geophilomorpha) in Czechoslovakia."

SEZNAM FAUNISTICKÝCH PRACÍ. ACTA FAUNISTICA ENTOMOLOGICA, Vol. 1, 1956
Praha, Czechoslovakia

Monthly list of EAST EUROPEAN ACCESSION INDEX (EAI), Library of Congress,
Vol. 8, No. 7, July, 1959

Unclassified

DOBROUHA, L.

Dignathodon microcephalum LUG; (Chilopoda, Geophilomorpha) in Czechoslovakia. p. 174
(Ochrana Prirody Vol. 11, no. 6, July 1956 Praha)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

DOBRORUKA, L.

"The recently discovered or remarkable centipedes Symphyla and Chilopoda from Bohemia. In German."

p. 135 (Sbornik Faunistických Prací. Acta Faunistica Entomologica, No. 2, 1957,

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No.6 June 1958.

FOLEMANOVA, B. [deceased]; DOBROBUKA, L.I.

A contribution to the study of chilopods of the U.S.S.R. Zool.
zhur. 39 no.12:1811-1818 '60. (MIRA 14:1)

1. Zoologicheskiy institut universiteta imeni Masarika, Brno i
Zoologicheskiy sad, Praga.
(Centipedes)

POPOV, Vladimir Il'ich, prof.; DOBROSEDOV, Leonid Leonidovich; STABNIKOV, Vsevolod Nikolayevich; ANDREYEV, Konstantin Petrovich; SOKOLOV, A.Ya., prof., retsenzent; AZRIYELOVICH, S.S., kand.tekhn.nauk, retsenzent; KHMEL'NITSKAYA, A.Z., red.; KISINA, Ye.I., tekhn.red.

[Technological equipment of fermentation industries] Tekhnologicheskoe oborudovanie predpriyatii brodil'noi promyshlennosti. Izd.4., perer. i dop. Moskva, Pishchepromizdat, 1961. 447 p.
(MIRA 15:5)

(Brewing industry—Equipment and supplies)
(Distilling industries—Equipment and supplies)

VECHERIN, Ya.P., inzh.; DOEROSSEL'SKAYA, A.F., kand.tekhn.nauk

Consolidation of the transportation facilities of industrial
enterprises. Trudy TSNII MPS no. 196:26-44 '60. (MIRA 14:5)
(Railroads, Industrial)

DOBROSEL'SKAYA, A.F., kand.tekhn.nauk; DLUGACH, B.A., kand.tekhn.nauk;
VECHERIN, Ya.P., inzh.; DERIBAS, A.T.

Advisability of the operation of small-capacity approach lines.
Trudy TSNII MPS no. 196:162-180 '60. (MIRA 14:5)
(Railroads--Branch lines)

DOBROSEL'SKAYA, A.F., kand.tekhn.nauk

Efficiency of specialized unloading points. Vest. TSNII
MPS 21 no.1:58-61 '62. (MIRA 15:2)
(Loading and unloading)

GULEV, Yakov Fedorovich; DERIBAS, Andrey Terent'yevich, kand. tekhn.
nauk; DOBROSEL'SKAYA, Antonina Filippovna; DRUZHININ, Konstantin
Fedorovich; KUKUSHKIN, Ivan Ivanovich

[New forms of transportation services for industrial enterprises.]
Novye formy transportnogo obsluzhivaniia promyshlennykh
predpriatii. Moskva, Transport, 1964. 10lp. (Moscow. Vsesoiuznyi
nauchno-issledovatel'skii institut zheleznodorozhnogo transporta.
Trudy, no.281). (MIRA 17:9)

DOBROSLAVSKIY, L.I., inzh.

Overall mechanization in the hoisting and conveying machinery
industry. Mekh. i avtom. proizvod. 19 no.7:5-10 J1 '65.
(MIRA 18:9)

21(8), 5(4)

AUTHORS:

Balandin, A. A., Academician, SOV/2e-121-3-28/47
Dobrosel'skaya, N. P., Mikhaylenko, I. Ye., Spitsyn, Vikt.I.,
Academician

TITLE:

Radioactive Catalysts (Radioaktivnyye katalizatory) The
Dehydration of Cyclohexanol Over the Sulphates of Magnesium
and Sodium (Degidratatsiya tsiklogeksanola nad sul'fatami
magniya i natriya)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 3,
pp 495 - 498 (USSR)

ABSTRACT:

Some recent investigations used the irradiation by γ -rays
or neutrons for the influencing of the processes of hetero-
geneous catalysis. In the present paper, however, the catalyst
itself is used as a source of the ionizing radiation for the
heterogeneous catalysis of gaseous substances. This cata-
lyst contained various quantities of the radioactive iso-
tope (β -radiator). It is assumed that the continuous bom-
bardment by β -particles will energetically influence the
processes which occur on the boundary solid body-gas. There
may be also an influence of the radiation on the structure

Card 1/4

Radioactive Catalysts. The Dehydration of Cyclo-
hexanol Over the Sulphates of Magnesium and Sodium

SOV/20-121-3-28/47

of the catalyzer (especially a change of the properties of its surface) and a radiation—chemical influence of radiation on the gaseous reagents even before their contact with the catalyzer. The object of the investigation was the catalytic dehydration of cyclohexanol over the sulphates of magnesium and sodium, in which the sulphur was substituted by various quantities of radioactive sulphur S^{35} . The investigation was carried out by means of a catalytic apparatus of the flowing type with an inserted reactor. This apparatus was placed in a tubular furnace with automatic feeding. The radioactive preparations $MgSO_4$

and the measurement of the radioactivity of the catalysts are then discussed. No gaseous products were generated by this reaction. The apparatus did not indicate the presence of any radioactive contaminants. The more non-radioactive sodium sulphate is added to the magnesium sulphate , the more does catalytic activity decrease. Also anhydrous sodium sulphate is a catalyzer for the dehydration of cyclohexanol, although it is rather less active than magnesium sulphate.

Card 2/4

Radioactive Catalysts. The Dehydration of Cyclohexanol Over the Sulphates of Magnesium and Sodium

SOV/20-121-3-28/47

The degree Δ of the conversion of cyclohexanol into cyclohexene increases with an increase of the radioactivity of the catalyst, but these increases are not proportional which respect to one another. The Arrhenius (Arrhenius) equation can be applied to the cases discussed in this paper. The paper showed experimentally that the radioactive radiation of the catalyst has an influence on catalytic activity and on activation energy. Finally, some possible explanations of the results of this paper are discussed. The discussed phenomena are a completely new effect of simultaneous action of the electrons and active centers of the catalyst. It may be assumed that the β -particles act upon the catalytically active centers which had adsorbed cyclohexanol molecules. The β -particles diminish the activation energy of the dehydration of cyclohexanol. Investigations are being continued. There are 4 figures, 1 table, and 8 references, 5 of which are Soviet.

Card 3/4

Radioactive Catalysts. The Dehydration of Cyclo-
hexanol Over the Sulphates of Magnesium and Sodium

SOV/20-121-3-28/47

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)
Institut fizicheskoy khimii Akademii nauk SSSR (Institute
of Physical Chemistry, AS USSR)

SUBMITTED: April 23, 1958

Card 4/4

5(3)

SOV/79-29-4-6/77

AUTHORS:

Turova - Polyak, M. B., Dobrosel'skaya, N. P.

TITLE:

Catalytic Reactions in the Presence of Metallic Aluminum (Kataliticheskiye reaktsii v prisutstvii metalliche'skogo alyuminiya). IV. Alkylation of Bromobenzene With Ethyl-n.-propyl- and n.-Butyl Bromide. Alkylation of Iodobenzene With n.-Butyl Bromide (IV. Alkilirovaniye brombenzola bromistym etilom, n.-bromistym propilom i n.-bromistym butilom. Alkilirovaniye yodbenzola n.-bromistym butilom)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1072-1077 (USSR)

ABSTRACT:

The alkylation of chlorobenzene with the above-mentioned alkyl bromides in the presence of metallic aluminum was recently carried out by the authors (Ref 1). It was proved in this paper that also bromobenzene can be alkylated in the same way. In order to investigate more thoroughly the kinetics of the alkylation in the liquid phase (in the presence of aluminum halides), the authors determined the influence exercised by the nature of the alkylating reagents, their mutual ratio, the reaction temperature, the heating time of the reaction mixture, and the activation time of aluminum upon the yield of the alkylation

Card 1/2

SOV/79-29-4-6/77

Catalytic Reactions in the Presence of Metallic Aluminum. IV. Alkylation of Bromobenzene With Ethyl-n.-propyl- and n.-Butyl Bromide. Alkylation of Iodobenzene With n.-Butyl Bromide

products. The same dependence of the yield of alkyl bromobenzenes on the nature of the alkyl bromide used and on the composition of the reaction mixture as in the alkylation of chlorobenzene (Ref 1) was established. The yields of alkyl bromobenzenes increase with the increasing molecular weights of alkyl bromides. The maximum yield of alkyl bromobenzene (a mixture of para- and ortho-isomers) is 52%, of n-isopropyl bromobenzene 75%, and of n-isobutyl bromobenzene 80%. Alkylbromobenzenes of normal structure are not obtained. The alkylation of iodobenzene with n.-butyl bromide in the presence of metallic aluminum is not possible. There are 5 tables and 21 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: March 6, 1958

Card 2/2

DOBROSELSKAYA, N. P.; VERESHCHINSKIY, I. V.; GLAZUNOV, P. Ya.; BALADIN, A. A.;
SPITSYN, V. I.

"Influence Du Rayonnement Radioactif D'un Corps Solids Sur Ses Proprieties
Catalytiques."

report submitted for Catalysis 2nd Intl. Cong., Paris, 4-9 Jul. 60.

Institute de Chemie Physique, Moscou, U.R.S.S.

DOBRONRAVOVA, N.P.

Daily expenditure of energy in mine drillers in Polar region. .
Vop. pit. 19 no.3:22-26 My-Je '60. (MIRA 14:3)

1. Iz otdela gigiyeny pitaniya (zav. - prof. A.I.Shtenberg)
Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i
gigiyeny imeni F.F.Erismana.
(METABOLISM) (RESPIRATION)
(NORIL'SK--MINERS--DISEASES AND HYGIENE)
(ARCTIC MEDICINE) (NUTRITION)

85661

S/079/60/030/009/021/022/XX
B001/B066

11.4600

AUTHORS:

Rudenko, A. P. and Dobrosel'skaya, N. P.

TITLE:

The Role of Complexing Additions in the Synthesis of
Phthalocyanines. I. Action of Phosphoric Acid Compounds
and Molybdenum Trioxide on the Formation Reaction of
Fe Phthalocyanine

PERIODICAL:

Zhurnal obshchey khimii, 1960, Vol. 30. No. 9,
pp. 3077 - 3083

TEXT: The formation of phthalocyanine and its metallic compounds from phthalic acid derivatives can, according to published data, be accelerated catalytically by adding different products, i. e., metals, metallic oxides, chlorides, sulfates, and other compounds of the elements of groups I-VI. The compounds of groups V-IV of the periodic system are known to be particularly active catalysts. It was the objective of the present paper to study the catalytic effect of the most active of these catalysts, and to explain the formation mechanism

Card 1/3

85661

The Role of Complexing Additions in the
Synthesis of Phthalocyanines. I. Action
of Phosphoric Acid Compounds and Molyb-
denum Trioxide on the Formation Reaction of Fe Phthalocyanine

S/079/60/030/009/021/022/XX
B001/B066

of phthalocyanine. The influence of phosphoric acid compounds and molyb-
denum trioxide upon the yield of Fe phthalocyanine (II) obtained by
reaction of iron dust with melted phthalimide (I) or phthalamide (III)
in ammonia at 240° and standard pressure was studied. Addition of 0,1
mole molybdenum and phosphorus in the form of orthophosphoric acid,
monosubstituted ammonium phosphate, molybdenum trioxide, or ammonium
molybdate lowers the formation rate of Fe phthalocyanine (II) from
phthalamide (III) and iron. The same admixtures of heteropoly compounds,
such as phosphomolybdic acid and ammonium phosphomolybdate, increase
the reaction rate. The catalytic effect of the admixtures becomes
manifest in the condensation of phthalamide (formation of new C-N
bonds). The effect of admixtures on the condensation of phthalamide
is found to depend on their capability of adding and splitting off
ammonia, as well as of forming and splitting the complexes with the
initial phthalamide and its condensation products. The activating
effect of admixtures is observable during the formation of labile

Card 2/3

85661

The Role of Complexing Additions in
the Synthesis of Phthalocyanines. I.
Action of Phosphoric Acid Compounds
and Molybdenum Trioxide on the Formation Reaction of Fe Phthalocyanine

S/079/60/030/009/021/022/XX
B001/B066

complexes. During the formation of stable complexes, like in the case of phosphoric acid, a passive behavior was noted when adding 1 mole of acid per 1 mole of phthalamide until the process was completed. On the basis of the experimental results, a formation mechanism of Fe phthalocyanine from phthalamide and iron is suggested, which represents a multi-stage polycondensation of phthalamide. The effect of small or large admixtures on the yield of Fe phthalocyanine is illustrated in three diagrams. There are 3 figures. 1 table, and 30 references: 6 Soviet, 4 US, 7 British, 12 German, and 1 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: August 6, 1959

Card 3/3

BALANDIN, A.A.; SPITSYN, V.I.; RUDENKO, A.P.; DOBROSEL'SKAYA, N.P.;
MIKHAYLENKO, I.Ye.; PIROGOVA, G.I.; GLAZUNOV, P.Ya.

Apparatus for studying heterogeneous catalysis at high temperature
using radioactive catalysts and ionizing radiations. Kin.i kat.
2 no.4:626-632 JI-Ag '61. (MIRA 14:10)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy gosudarstvennyy
universitet imeni M.V.Lomonosova.
(Catalysis)

22514

5 1190 2209, 1274, 1297

S/062/61/000/004/003/008
B118/B208

AUTHORS: Balandin, A. A., Spitsyn, Vikt. I., Dobrosel'skaya, N. P.,
Mikhaylenko, I. Ye., Vereshchinskiy, I. V., and
Glazunov, P. Ya.

TITLE: Effect of radioactive radiation of a solid body on its
catalytic properties

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
no. 4, 1961, 565-571

TEXT: There are no data available on the effect of the proper radioactive radiation of solids on their catalytic properties. The authors of the present paper investigated the change of catalytic activity as a result of decay of the radioactive isotope, furthermore whether also the β -radiation of a foreign element affects the reaction to be studied, and the effect of irradiating the catalyst by a fast electron beam. The effect of the radioactive catalysts CaCl_2 , MgSO_4 , and Na_2SO_4 , containing the β -emitters S^{35} and Ca^{45} , on the dehydration of cyclohexanol was studied. The increased catalytic activity of radioactive catalysts, contrary to
Card 1/3

22514

Effect of radioactive...

S/062/61/000/004/003/008
B118/B208

non-labeled catalysts, which had been previously observed by the authors, was confirmed in many cases. The catalytic activity decreases with decreasing radioactivity of the catalyst owing to decay of the isotopes S^{35} and Ca^{45} . Bombardment of the surface of the non-labeled catalyst with 800-kev electrons has no pronounced effect, contrary to the effect of β -particles of labeled S^{35} and Ca^{45} which are constituents of the catalyst. Thus not only the labeled S^{35} , but also the labeled Ca^{45} increases the catalytic activity of magnesium sulfate in the dehydration of cyclohexanol. The radioactive isotope need not be a component of the acting catalyst. It must be concluded that the increased activity of the radioactive catalysts studied is due to a continuous bombardment of the active centers of the catalyst with β -particles. The latter transfer their energy to the adsorbed cyclohexanol molecules and reduce the activation energy of the chemical reaction. It may be concluded from the decrease of the catalytic activity due to the decay of the isotope in the catalyst that the new elements resulting in the radioactive conversion do not increase the activity. Apparently, the activation of the catalyst surface takes place

Card 2/3

22514

Effect of radioactive...

S/062/61/000/004/003/008
B118/B208

at the expense of the proper radioactive radiation. There are 8 figures,
2 tables, and 4 Soviet-bloc references. ✓

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of
Physical Chemistry of the Academy of Sciences USSR).
Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 16, 1960

Card 3/3

RUDENKO, A.P.; DOBROSEL'SKAYA, N.P.

Role played by complexing addition agents in the synthesis of phthalocyanines. Part 2: Effect of the compounds of phosphoric acid, chromium oxide, and tungsten trioxide on the formation of Fe-phthalocyanine. Zhur. ob. khim. 31 no. 11:3667-3671 N '61.
(MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Phthalocyanine) (Complex compounds)

S/020/61/137/003/023/030
B101/B208

AUTHORS: Balandin, A. A., Academician, Vikt. I. Spitsyn, Academician,
Dobrosel'skaya, N. P., and Mikhaylenko, I. Ye.

TITLE: Radioactive catalysts. Dehydration of cyclohexanol on
magnesium sulfate and calcium chloride

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 3, 1961, 628-630

TEXT: The authors reported in a previous paper (Ref. 1: DAN, 121, 495, (1958)) that catalytic dehydration of cyclohexanol was affected by the presence of S^{35} in the catalyst ($MgSO_4$). They have now made a study of the effect of the radiant energy of the isotope on the yield at constant absolute activity of the radioactive catalyst. To compare it with the effect of S^{35} ($E_{max} = 0.167$ Mev) a beta-emitter, Ca^{45} ($E_{max} = 0.254$ Mev), was chosen again. Ca^{45} was obtained by irradiating $CaCO_3$ enriched with Ca^{44} with slow neutrons ($0.8 \cdot 10^{13}/cm^2 \cdot sec$). The resultant radioactive

✓

Card 1/6

Radioactive catalysts. Dehydration ...

S/020/61/137/003/023/030
B101/B208

isotopes were identified with a scintillation spectrometer equipped with a 100-channel-pulse height analyzer. The presence of Ca^{45} was confirmed. The low gamma activity (0.010 mg.equ Ra per g CaCO_3) was due to an Fe^{59} impurity. CaCO_3 was dissolved by adding 18% HCl , and CaCl_2 was annealed at 400°C . The absolute activity of CaCl_2 was measured by an end-window counter and a 4π counter. Cyclohexanol was dehydrated by a mixture of $\text{MgSO}_4 + \text{CaCl}_2$. MgSO_4 was wetted with a certain amount of a solution of radioactive and inactive CaCl_2 , and heated to 400°C within 2 hr. Table 1 gives the characteristics of the catalysts applied. Dehydration took place at $350\text{--}420^\circ\text{C}$ in an apparatus described in Ref. 1. The content of unsaturated hydrocarbons was determined bromometrically in the reaction products collected in the water-cooled receiver. Pure MgSO_4 proved to be the most active catalyst. Addition of inactive CaCl_2 reduces its activity. Pure CaCl_2 , both the active and the inactive one, was completely

Card 2/6

Radioactive catalysts. Dehydration ...

S/020/61/137/003/023/030
B101/B208

inert. On the other hand, all mixtures containing Ca^{45} showed an increased catalytic activity as compared with mixtures containing the same amount of inactive Ca. These results are presented in Fig. 2. The numbers correspond to those of the catalysts in Table 1. The radioactive catalysts are denoted by an asterisk. It is concluded that the β -radiation of the isotope does not influence the dehydration kinetics, and that MgSO_4 is excited by the β -particles and by secondary electrons knocked-out by them. Fig. 3a represents the degree of cyclohexanol conversion as a function of the logarithm of the specific activity of the catalyst, and compares it with the data obtained in Ref. 1 for $\text{MgSO}_4 + \text{Na}_2\text{SO}_4$ containing S^{35} . Fig. 3b shows the degree of conversion as a function of radiant power. The increased degree of conversion in the presence of $\text{Ca}^{45}\text{Cl}_2$ is said to be due to the higher energy of its β -particles. There are 4 figures, 1 table, and 1 Soviet-bloc reference.

Card 3/6

Radioactive catalysts. Dehydration ...

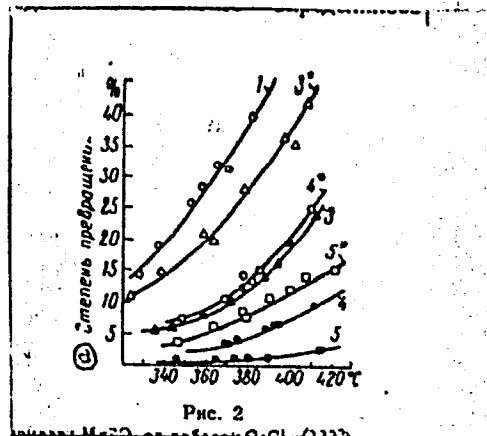
S/020/61/137/003/023/030
B101/B208

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR)

SUBMITTED: December 24, 1960

Fig. 2. Effect of radioactive radiation of the catalyst upon its catalytic activity.

Legend: (a) Degree of conversion.

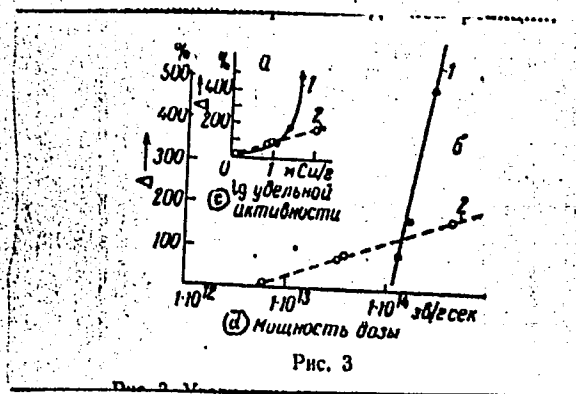


Card 4/6

Radioactive catalysts. Dehydration ...

S/020/61/137/003/023/030
B101/B208

Fig. 3. Increase of the degree of cyclohexanol conversion as a function of the specific radioactivity of the catalyst (a), and of the radiant power (b) received from the catalyst (410°C). 1) $\text{MgSO}_4 + \text{CaCl}_2$; 2) $\text{MgSO}_4 + \text{Na}_2\text{SO}_4$; (c) log of specific activity; (d) radiant power, $\text{ev/g}\cdot\text{sec}$.



Card 5/6

Radioactive catalysts. Dehydration ...

S/020/61/137/003/023/030
B101/B208

Table 1. Dehydration of
cyclohexanol on
 $\text{MgSO}_4 + \text{CaCl}_2$. Legend:

(1) Number of catalyst;
(2) characteristic values
of the catalyst; (a) CaCl_2
content, wt%; (b) absolute
activity, mCu/g; (3) ap-
parent activation energy
of cyclohexanol dehydration,
kcal/mole.

Таблица 1
Дегидратация циклогексанола над $\text{MgSO}_4 + \text{CaCl}_2$

① № катализатора	② Характеристики катализатора		③ Кажущаяся энергия активации процесса дегидратации циклогексанола, ккал/моль
	④ содерж. CaCl_2 , вс. %	⑤ абс. актив- ность, мCu/г	
1	0	0	15,1
2	100	0	—
2*	100	93,7	—
3	13,82	0	17,8
3*	13,93	12,0	14,2
4	27,05	0	18,2
4*	28,99	24,6	18,3
5	49,87	0	18,4
5*	49,82	45,1	15,5

Card 6/6

ZEMLYANOVA, L.I.; ZIMAKOV, I.Ye.; LYAPINA, A.M.; SPITSYN, Vikt. I.;
DOBROSEL'SKAYA, N.P.

Electron microscope study of the effect of radioactivity of
elementary sulfur on the structure of its surface.

Radiokhimiia 5 no.3:392-394 '63.

(MIRA 16:10)

(Sulfur isotopes)

(Electron microscopy)

S/020/63/148/004/022/025
B144/B101

AUTHORS: Zimakov, I. Ye., Dobrosel'skaya, N. P., Spitsyn, Vikt. I.,
Academician

TITLE: Effect of the radioactivity of molybdenum trioxide on the
change of its specific surface

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 4, 1963,
884-885

TEXT: The specific surface was studied in MoO_3 samples containing
different quantities of Mo^{99} ($T_{1/2} = 68.3$ hr, $E(\beta)_{\text{max}} = 1.23$ Mev). A
mixture of radioactive and non-radioactive MoO_3 was converted by NH_4OH
to ammonium molybdate. The solution was evaporated and the residue
calcined with addition of HNO_3 to prevent reduction of sexivalent Mo by
 NH_3 . The MoO_3 recovered was mixed with small quantities of Nb_2O_5 and
 ZrO_2 and sublimated at 850°C . The surfaces were measured in samples of

Card 1/2

Effect of the radioactivity of ...

S/020/63/148/004/022/025
B144/B101

0.5 - 0.25 mm granulation. The external specific surface (without blind pores) was measured by filtering rarefied air through the sample and determining the resistance. At radioactivities up to ≈ 10 mcu/g, these surfaces decreased slightly, whereas with higher mcu values they increased. The total surface was determined by the BET method with adsorption of krypton (area occupied by the Kr molecule: 19.5 \AA^2). Additions of radioactive MoO_3 up to 10 mcu reduced the total specific surface (maximum 30%), while higher additions increased it. The absolute values obtained by the two methods were rather similar, which indicates only a small number of blind pores. Based on a previous study (DAN, 139, 654 (1961)), the reduction of the specific surface with low radioactivities is attributed to the reduction of the evaporation rate. Higher radioactivity entails higher evaporation rates and formation of dendrites owing to the effect of β -particles. There are 2 figures.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR)

SUBMITTED: November 16, 1962

Card 2/2

SPITSYN, VIKT, I., akademik; BALANDIN, A.A., akademik; MIKHAYLENKO, I.Ye.;
DOBROSEL'SKAYA, N.P.

Dehydration of isopropyl alcohol on a radioactive tricalcium phosphate catalyst. Dokl. AN SSSR 146 no.5:1128-1131 ('62. (MIRA-15:10)

1. Institut fizicheskoy khimii AN SSSR.
(Isopropyl alcohol) (Dehydration (Chemistry)) (Calcium phosphate)

ZIMAKOV, I.Ye.; DOBROSEL'SKAYA, N.P.; SPITSYN, Vikt.I., akademik

Effect of the radioactivity of molybdic anhydride on the
variation of its specific surface area. Dokl. AN SSSR 148
no. 4: 884-885 F '63. (MIRA 16:4)

1. Institut fizicheskoy khimii AN SSSR.
(Molybdenum oxides) (Radioactivity) (Surface measurement)

BALANDIN, A.A.; SPITSYN, Vikt.I.; DOBROSEL'SKAYA, N.P.; MIKHAYLENKO, I.Ye.

Determination of the specific surface of radioactive catalysts.
Izv.AN SSSR.Ser.khim. no.2:379-382 F '64. (MIRA 17:3)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

SPITSYN, Vikt.I.; BALANDIN, A.A.; DOBROSEL'SKAYA, N.P.; D'YACHKOVA, R.A.

Catalytic dehydration of cyclohexanol over magnesium sulfate
doped with protactinium-231. Izv. AN SSSR. Ser.khim. no. 3:
564-565 Mr '64. (MIRA 17:4)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy gosudarstvennyy
universitet im. Lomonosova.

ACCESSION NR: AP4020063

S/0186/64/006/001/0130/0132

AUTHOR: Spitsy*n, Vikt. I.; Zimakov, I. Ye.; Dobrosel'skaya, N. P.

TITLE: Effect of radioactive emission S³⁵ and Mo⁹⁹ on the magnitude of the specific surface of molybdenum disulfide

SOURCE: Radiokhimiya, v. 6, no. 1, 1964, 130-132

TOPIC TAGS: molybdenum disulfide, specific surface, BET method, radioactive radiation, tagged molybdenum disulfide, crystal lattice irregularity, crystallization center formation, specific surface change, sulfur 35, molybdenum 99

ABSTRACT: The effect of radioactive radiation imparted by incorporating S³⁵ and Mo⁹⁹ isotopes, on the specific surface of MoS₂ obtained from a melt was investigated. The specific surface was determined by the BET method by low temperature adsorption of krypton. The specific surface of the radioactive materials differs from that of the non-tagged MoS₂ in that it increases with an

1/3

ACCESSION NR: AP4020063

increase in specific radioactivity. With S^{35} the increase is fairly regular and the specific surface is tripled with 30 millicurie/gm. radioactivity from about 8 to 24 $m^2/gm.$ With Mo^{99} the increase is sharper, i.e., almost tripled with 15 millicurie/gm.⁵ radiation. (fig. 1). The specific surface of the materials does not change on standing. The difference in specific surface associated with radioactive radiation is apparently caused by the formation of irregularities in the crystal lattice and the creation of additional crystallization centers. Orig. art. has: 2 figures and 1 table

ASSOCIATION: None

SUBMITTED: 05Aug63

DATE ACQ: 31Mar64

ENCL: 01

SUB CODE: GP, NP

NO REF SOV: 007

OTHER: 003

L 00622-67 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) GG/JD

ACC NR: AT6020037

(A)

SOURCE CODE: UR/2564/65/005/000/0212/0218

AUTHOR: Spitsyn, V. I.; Zimakov, I. Ye.; Dobrosel'skaya, N. P.

52
B+1

ORG: none

TITLE: The influence of radiation on the formation and uniformity of crystals

21

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 5, 1965, 212-218

TOPIC TAGS: crystal growth, crystal deformation, radiation damage, radiation effect

ABSTRACT: In the last 5 years the Institute of Physical Chemistry, Academy of Sciences SSSR (Institut fizicheskoy khimii Akademii nauk SSSR) gathered numerous data concerning the influence of radioactive radiations of solids on their physico-chemical properties, in particular the production of nonuniform crystals. The present article contains further data collected during the study of radioactive crystalline powders of barium tungstate, elementary sulfur, molybdenum tri- and disulfide, all synthesized by crystallization from solutions and gaseous vapors, and precipitation from alloys. The nonradioactive and radioactive samples with differing specific activity were prepared under strictly identical conditions. The samples were studied by measuring their size and their specific surface, and by taking electron-microscopic pictures. The paper describes in considerable detail the

Cord 1/2